DOCUMENT RESUME

ED 126 806 HE 008 075

TITLE Some Highlights of the Astin Study of Dropouts and Implications for the Black Colleges.
INSTITUTION Moton Consortium on Admissions and Financial Aid, Washington, D.C.
NOTE 12p.
AVAILABLE FROM Moton Consortium on Admissions and Financial Aid, 2100 S Street, N.W., Washington, D.C. 20009

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Academic Failure; *Black Community; Campuses; *College Environment; *Dropout Identification; *Dropout Research; Employment; *Higher Education; *Negro Colleges; *Negro Students; Socioeconomic Influences; Student Financial Aid; Students; Surveys

ABSTRACT

The Astin study of dropouts is a national survey covering a large population; it is a longitudinal study and is related to action programs. This paper highlights some of the major aspects of the study, draws implications that have special significance to the black colleges, and suggests areas for further research that would appear to be of particular importance to decisionmaking in the historically black institutions. The study finds that the most important areas affecting attrition are: financial aid; residence and campus environment; employment; and characteristics of the college. (JMF)

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Some Highlights of the Astin Study of Dropouts and Implications For The Black Colleges

The Astin study of Dropouts, recently published in book form,[1] will probably be regarded as one of the foremost studies of attrition of this decade. It is sure to be read by most college admissions officers, financial aid officers and by many college presidents and top administrators. It is a national survey covering a large population, it is a longitudinal study and it relates to action programs. The purpose of this paper is 1) to highlight some of the major aspects of the study and implications that have special significance to the black colleges and 2) to suggest areas for further research that would appear to be of particular importance to decision-making in these historically black institutions.

I. Structure and Design of the Study

By now it is no news that attrition is affected by a large number of variables. The Astin study however recognizes the dynamics of these variables—the fact that they interact, sometimes in unpredictable ways. It recognizes this by applying multiple regression techniques.[2] In the initial analyses, 110 independent or predictor variables were allowed to enter the regression analysis in a stepwise fashion until no additional predictor was capable of adding significantly ($p < .01$) to the prediction of dropping out. Fifty-three of the 110 student personal variables "contributed significantly" to the prediction of dropping out [in one or both analyses]. Next, these 53 student variables were used as predictors in a series of regression analyses performed separately on selected sub-groups of students.

Furthermore, Astin recognizes the importance of longitudinal studies and of covering a large enough number of institutions since many previous attrition studies have been fragmented. As Astin says, "most published research is limited in scope and inadequate in design. The principal deficiency is the lack of longitudinal design and the use of a limited number of institutions."[3] Research subjects were selected from a representative national sample of 358 two- and four-year colleges and universities.[4] The original freshman sample included 243,156 students. Since the entire sample could not be followed up due to budgetary limitations, approximately 101,000 were followed up with random samples of approximately 300 students from each institution. In order to have longitudinal data on a substantial number of blacks, all 16,544 black students were included in the following sample. Of the questionnaires returned, 14,356 were properly completed and used in the longitudinal study. Furthermore, the Astin study considers as dropouts only those students who had originally planned to earn a bachelor's degree but who subsequently failed to do so. Thus, the sample of 41,356 students was further reduced to 38,703 by eliminating all students who did not aspire to at least the bachelor's degree when they entered college in 1968.[5]

In using the 53 student variables as predictors in a series of regression analyses, the study performs separate analyses for four groups of students.

The actual unweighted number of students in each group is shown on the following page:

[1] "Preventing Students From Dropping Out," Alexander W. Astin, Jossey-Bass, 1975.

[2] *Ibid.*, p. 25.

[3] *Ibid.*, p. 3.,

[4] *Ibid.*, pp. 3, 4.

[5] Further details of methodology are described in chapter one of the book.

Nonblack men	18,069
Nonblack women	17,074
Blacks in black colleges	1,378
Blacks in white colleges	1,761
TOTAL	38,282*

*Excluded from these four groups are 421 students who either gave no race or were nonblacks enrolled in black colleges.

So much for a description of the makeup of the study population and a brief recap of the methodology contained in the books' first chapters. The study findings are quite explicit and are described in subsequent chapters of the book. The most significant will be treated in Sections II–IV of this paper. Each section will follow the following format: first, highlights of the particular aspect treated within the section (such as employment) will be given, then implications for the black colleges will be drawn, and thirdly, one or more areas for further research will be suggested.

Some of the views expressed in this paper are controversial, and a few are in conflict with others drawn from the same Astin publication, "Preventing Students From Dropping Out." This is particularly true with regard to the findings on Work Study Programs and their implications for black colleges.[1] This can be the case in any interpretation of published research and should stimulate careful consideration of these issues by administrators as they apply to their individual institutions.

In summary, of the many student and college characteristics tested, the study concludes that the most important areas affecting attrition are:

- Financial Aid
- Residence and Campus Environment
- Employment
- Characteristics of the College

Structure and Design of the Study: Implications for the black Colleges

The following is not meant to be a criticism of the study. Even a comprehensive report on a longitudinal study covering a large national sample cannot realize all of the potential value contained in the data. Nevertheless, it would appear that Astin's Dropout Preventions treatment has several limitations as far as its application to the black colleges is concerned.

1. The actual unweighted number of blacks in black colleges in the final sample is only 3.6%. This may still be adequate representation in the total sample. It appears to be inadequate, however, when breakdowns into sub-strata are made. As Astin's footnote[2] states, "In several subsequent sections of the book, results for black students will not be reported whenever the sample size is too small." This limitation applies to a number of points in the book which are critical to the attrition problem in the Black colleges.
2. As cited previously, the Astin book treats four groups: nonblack males, nonblack females, blacks in black colleges and blacks in white colleges. As it proceeds through the major areas affecting attrition, the author brings out some very sharp differences between nonblack males and nonblack females. Some of his findings are surprising and should be of great significance to college administrators working on the problems of attrition. Yet, Astin, in this particular book, does not make the same distinction between black males and females.
3. Since it has been shown that attrition is affected by a number of variables, and that each college is a somewhat unique environment, these variables interact dynamically. As a result:
   - Piece-meal measures are apt to be non-productive. Each attrition program must be multi-faceted and inter-related.
   - Another institution's program may be used as a generalized model; copying another institution's program may not be at all suitable. Each institution needs to study itself, its special characteristics and its own students' characteristics on a longitudinal basis. The range of actual dropout rates among the 358 institutions in the study is tremendous—from a low of 3% to a high of 81%. (There are reasons for the extremes in this range, which will be described elsewhere.)
   - There are a number of implications in the study for college recruiters as well as admissions and financial aid people.

Structure and Design: Suggestions for Research

Basically, it would appear that the black colleges need a separate national, longitudinal study of attrition among blacks, with separate categories for black men and women. Many other aspects of the Astin study's structure and design might well be replaced, particularly so that comparisons with findings regarding non-black males and females can be made.

II. At the beginning of this section of the book, the author states that the primary aim of this study is prediction rather than description and that the first step is to identify which personal characteristics of college entrants predict dropping out. As already described, the Astin study settled upon 53 student personal variables that contributed significancly to the prediction of dropping out in its analyses. The book describes these in detail.

The general areas of predictors utilized in the study are:

Academic Background

Average High School Grade
Rank in High School Class

[1] See "Student Financial Aid—Two Analyses," Research Report, Institute for Services to Education, Washington, D.C. Volume II, Number 2, Summer, 1975.

[2] *Ibid.*, p. 54

College Admission Test Scores
Student's Academic Rating of the High School

Family Background

Religion
Parental Income and Education
Race
Home Town

Educational Aspirations

Degree Aspirations
Intended Fields of Study

Study Habits

Expectations about College

"Other" Characteristics

The study confirms findings of a number of previous investigations made over a number of years, that the most significant prediction characteristics are:

High School Academic Records
Degree Aspirations
Poor Study Habits
Relatively Uneducated Parents
Small Town Backgrounds

Academic Background

While high school grades are considered to be one of the best predictors of drop-out proneness, one finding of the study may be of particular interest to blacks. For black students attending white colleges, rank in high school class is found to be a more potent predictor of dropping out than average high school grade.[1] Secondly, with respect to College Admission Tests, for both groups of blacks, SAT and ACT scores contribute only marginally to the prediction.[2] As Astin points out, one possible explanation for this result may be the smaller variation in test scores shown by black students (the standard deviations in the college admissions test scores for both groups are substantially lower than the standard deviations for the two white groups).

Degree Aspirations

The study excluded students who did not aspire to at least a bachelor's degree at matriculation. Nevertheless, it concludes that students who aspire to a doctorate or professional degree are the least likely to drop out of college, while students who aspire to a bachelor's or "other" degree have the greatest chance of dropping out. Perhaps it is more than a matter of a higher degree in itself. A possibility is that those with more specific and longer term goal aspirations are less likely to drop out. These longer term orientations could be certain educational preparation goals and career plans rather than just the degrees.

In a series of papers resulting from the Metropolitan Junior College District Conference, edited by Richard L. Alfred, it is stated that "crystallization of educational goals versus ambiguity and non-clarification of purpose is apt to be a principal factor in attrition."[3] In a Minnesota University study in 1973, it was found that one of the factors that helps a student to hold a favorable image of his or her college environment is the attainment of desired educational outcomes.[4]

A very positive finding in keeping with Astin's conclusions that should be of interest to black colleges, however, is that the 1972 ACE report on characteristics and recent trends of black college freshmen showed that proportionately more black freshmen than non-black hoped to get a post baccalaureate degree.

Study Habits

Study habits are regarded in the Astin study as a significant contribution to predictions of dropout proneness. The material on pages 39 and 40 of his book should be studied for some rather surprising aspects of responses to questions on study habits. Also, it is interesting to note that Charles J. Jones in a study of black students states that "males attending predominantly black colleges were more inclined to attribute their academic difficulties to their own poor study habits . . . and less likely than those attending predominantly white colleges to blame their difficulties on defects in their schools.[5]

Other Characteristics

Among other characteristics noted is one item in the list of student activities in high school that is interesting even though not much may be done about it from a realistic standpoint. Astin points out that, in estimating dropout probabilities from the regression weights, the black student who smokes "frequently" has a dropout probability about 20% greater than the student who smokes "not at all." This association between smoking and dropping out of college has been noted by other investigators (Dvorak, 1967; Pumroy, 1967). There is little in the way of reliable explanation of this association but as Astin suggests, it may be a worthwhile field for certain physiological and psychological research.

One other characteristic worth commenting on is the positive association of age with dropping out. The number of older students in the sample was small; the finding, however, is consistent with previous studies by other researchers. This factor could have definite implications for Continuing Education programs. Attitudes and conditions involved in the need for continuing education, however, are changing and past performance cannot be relied upon as a reliable prediction of the future.

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[1] *Ibid.*, p. 32.

[2] *Ibid.*, p. 32.

[3] "Student Attrition: Strategies for Action," Richard L. Alfred, Ed., Metropolitan Junior College District, Kansas City, Mo., October, 1973, p. V, ED 085 084.

[4] "Undergraduate's Expectations and Perceptions of a College Environment," Minnesota University, Minneapolis College of Education, 1973, John C. Weidman, David J. Krus, ED 074 937.

[5] "Differences in Perceived Sources of Academic Difficulties: Black Students in Predominantly Black and Predominantly White Colleges," Jones, Charles J. and Others, 1970 ED 085 084

Worksheets for Predicting Chances of Dropout

Skipping to the final chapter in Astin's book, one finds worksheets or tables for calculating an individual student's probability of dropping out of college. These worksheets are lengthy and the tables in them show regression weights which are to be used in the calculations. The final figure to be arrived at for each student is his or her probability of dropout.

Predicting Which Freshmen Will Dropout: Implications for the Black Colleges

Perhaps the first question about Astin's student characteristic variables is what use does a particular institution intend to make of them as predictors?

- Obviously, they could be used as one basis of selectivity of students. The first problem, however, is that a college must determine how selective it is going to be. How selective can it afford to be and how selective should it be? Many institutions of higher education today have a policy of open admissions. If the worksheet questions and calculations advocated were to be the main reason for using these variables, they would be a meaningless statistical exercise.
- This leads to the point that each institution should consider the problem of attrition as one factor in re-examining its mission. It is assumed that most colleges have several options open to them.

  a) An institution can remain or strive to become a college committed to preparing students for graduate degrees and the professions. Keeping in mind the findings on the effects of persistence of aspirations for a post-baccalaureate degree, it can hope to enjoy a lower dropout rate. The matter of selectivity may then become an issue. As will be shown in a later section of this paper, it would probably be best for such an institution to be "moderately" selective.

     What is "moderately selective"? What predictive characteristics will a college use? Each institution will have to determine this for itself as a matter of policy.

  b) An institution can establish a number of career curricula for occupations that do not require post-baccalaureate degrees; some may not require any degree. Although certain actions can be taken to reduce attrition, such institutions may have to accept a relatively high rate of attrition as a part of the nature of such a school. These schools may have to put special emphasis on recruiting transfer students, continuing education students, etc., for their upper class on order to replace the higher shrinkage rate they experience.

  c) A college may try to accommodate both of the missions described in a) and b) above. In this case, the college may have to adopt dual standards of selectivity.

- A second and perhaps more meaningful use of the predictors and the Astin worksheets is to alert counselors to those dropout-prone students who should be given special monitoring and guidance. This would be a preventive medicine type of approach and could be particularly beneficial because of the specific information it could provide.
- Still another use would be to calculate from all of the individual student dropout probabilities a total figure and a profile of each entering freshmen class. This could help make enrollment forecasts and planning more accurate. Furthermore, most educators will agree that there can be wide differences in performance between entering classes. A careful analysis of class profiles based on the various student characteristics could help a college and its counselors to tailor special efforts and student services or to shift emphasis to suit the specific needs of each entering class. This would help conserve the resources required for these purposes and to make their application more effective.
- One of the significant factors in attrition is shown to be poor study habits. Those colleges that do not already have a course or program in good study habits should consider establishing one and making it mandatory for all entering students.

Predicting Which Freshmen Will Drop Out: Suggestions for Research

As indicated, each institution should study its mission and its admission policies from the standpoint of any attrition problems it has, and it should determine what its basis of selectivity will be. This means it should determine which predictors it will emphasize.

Secondly, it is very important that a college build its student characteristics information into a data base. This will be essential to its Institutional Research efforts and to a number of decision-making studies in the future.

Thirdly, as the data on dropout proneness is accumulated, colleges should relate this to various remedial demands and the costs of meeting them. This will be highly important to cost analysis and cost-effectiveness studies. Also, this will give certain colleges good statistical and accountability ammunition that is needed in making budget and other presentations to legislators.

Finally, the pronounced effect of dropout proneness among blacks who "smoke frequently" is just one factor among many that suggest a need for psychological and motivational research on the relation of such factors to student performance and success. In other sections of this paper, further comment will be made on suggested psychological and motivational research.

III. Impact on Financial Aid

The Astin study examines a number of different forms of

financial aid to students from the standpoint of their effect on persistance. It treats:

- Parental Aid
- Support from Spouse
- Scholarships and Grants
- Loans
- Work-study Programs
- Other forms such as ROTC benefits

Furthermore, it treats these forms both separately and as financial aid packages.

Several findings with respect to blacks are highlighted in the following paragraphs:

- Parental aid has different significance to blacks attending white colleges as opposed to those attending black colleges.[1] In the case of those attending white colleges, major parental support has a substantial positive effect on persistence. For those attending black colleges, it has a negligible positive effect.
- When it comes to support from one's spouse, there is insufficient data on blacks on which to base any conclusions. In the case of whites, however, the findings showed sharp contrasts between the persistence effects on males versus females.[2]
- In the case of scholarship and grant support in relation to persistence among blacks, the findings are inconsistent. To quote Astin directly, "In the black colleges, students with *major** grant support have a somewhat reduced (4 percent) chance of dropping out. Receiving *minor* grant support, however, is associated with a 5 percent *increase* in dropout chances. For blacks attending white colleges, the situation is reversed: *minor* grant support is associated with an 8 percent decrease in dropout probabilities, while major support is associated with a small increase in dropout chances (1 percent) . . . . While these data on blacks are difficult to rationalize, they suggest that the *amount* of scholarship aid may be critical to the black students' chances of completing college."[3]
- As for the impact of loans on black students, the picture here is also unclear.[4] Loans seem to have no consistent effect on persistence among blacks attending black colleges, but a positive effect on black students at white colleges. Incidentially, Astin points out an important artifice with respect to loans: the longer the student is able to remain in college the more he is able to secure loans. Therefore, loans secured in the upper classes become a "minor source" of support automatically.

Note: In the following paragraph and in several other parts of this paper Astin indicates the beneficial effects of work-study programs and of certain types of employment. Based on these findings the writer has made certain recommendations with respect to work-study and student employment programs in black schools. These should be viewed with caution, however. Even since the Astin study was made, there are indications that a growing number of students (both black and white) are coming into colleges ill prepared for college work. These students must spend more time on remedial work and obtain additional help in learning. Such students may or may not be able to afford even the time that a controlled work-study program requires.

- Work-study programs for blacks have significant effects, and participation is associated with a substantial reduction in drop-out rates: 14 percent in black colleges and 9 percent in white colleges.[5]

  Astin suggests that findings on work-study programs, as well as a number of other factors, at least tend to support what he terms the "theory of involvement" as a strong element in increasing persistence in college. According to the theory, the more involved a student becomes with other students, with faculty and with the social and extra-curricular activities in college the stronger are his chances of persisting. On-campus work-study programs tend to involve a student more deeply with campus life and thus increase the chance of persistence.
- White males whose ROTC benefits are a major support for undergraduate expenses have a substantially reduced dropout rate (14 percent)[6] compared with students who do not receive ROTC benefits. Again, data for blacks are too sparse for reliable estimates.

When the various forms of financial aid are treated as packages, the combinations render some surprising results. Because dealing with combinations reduces the number of students in each category, results for *white* students only are presented.

- There is a marked and contrasting difference in effects on persistence between students receiving work-study with no grant support, work-study and minor grant support, and work-study and major grant support.[7] Furthermore, there is a difference in effect between men and women. For example, both men and women receiving a combination of work-study and *minor* grant support suffer a

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[1] "Preventing Students From Dropping Out," Alexander W. Astin, Jossey-Bass, 1975, p. 54.
[2] *Ibid.*, p. 54.
[3] *Ibid.*, p. 60.
[4] *Ibid.*, p. 61.
*Statistics in many cases are our own.
[5] *Ibid.*, p. 63.
[6] *Ibid.*, p. 68
[7] *Ibid.*, p. 67.

negative effect whereas those with a combination of work-study and *major* grant support enjoy a positive effect (1 percent and 5 percent).

- Again, with respect to loans and work-study, there are contrasting positive and negative effects between major and minor loans.
- The most effective combination appears to be substantial loan support and work-study.

Impact of Financial Aid: Implications for the Black Colleges

- Different forms of financial aid are not just different pockets of money; each can have different effects on the desired outcome. There is insufficient data, however, on blacks and the effects on black students may be the same or they may be very much different.
- There may be a need to rethink present forms of student financial aid and to become more innovative in this field in order to accomplish the desired end most effectively.
- Financial Aid officers, particularly in black colleges, should obtain all of the data of this type they can in order to influence policy-makers in federal and state legislatures on student financial aid needs. As will be shown elsewhere in the section on Employment, possibly more aid should be sought in the form of work-study programs.
- As will be shown elsewhere, the effects on persistence of student financial aid and employment often are inter-acting. In the case of many colleges, these two functions are handled separately by staff people who do not work together and unintentionally may be working at cross-purposes instead of maximizing their combined effectiveness.

Impact of Financial Aid: Suggestions for Research

As noted, there is not enough data on the effects of Financial Aid forms and packages on black students. This is a critical area that needs attention. Furthermore, as Astin points out, there is need for more research on financial aid packages and possible interactions with students' sex and parental income.

Secondly, Financial Aid is another area that has strong psychological and motivational aspects that are little understood. There is a considerable need for psychological-motivational research on such forms of Financial Aid as loans.

IV. Effects of Employment on Attrition

Next, Astin turns his attention to employment and its effects on attrition. In the 1972 follow-up study, students were asked to indicate their employment while enrolled in their freshman year. The four categories presented and the percentages of students who checked each are:[1]

	White Males	White Females	Blacks in Black Colleges	Blacks in White Colleges
Federally sponsored work-study programs	2.4	5.2	11.1	11.9
Other on-campus work	6.3	8.6	4.4	5.9
Off-campus work	21.9	15.1	7.5	13.8
Employment for college credit as part of departmental program	2.1	.4	.2	.7

The table shows some significant racial differences. First, most blacks employed in on-campus programs while enrolled in their freshman year are in federal work-study programs.

Secondly, when it comes to off-campus work, blacks appear to have much less job opportunity than whites. As Astin points out, however, Black colleges, often located in rural areas, may not be handy to employment opportunities.

The second aspect of employment reviewed is the type of job held longest by students while in college. These categories, with the percentages of students who checked each are:[2]

Longest Job Held	White Males	White Females	Blacks in Black Colleges	Blacks in White Colleges
Teaching or Research Assistant to a Professor	3.6	8.8	3.9	3.5
Work in some other academic-related department on campus (such as library, administration)	5.4	13.1	18.8	16.3
Work in non-academic sector of the campus (for example, cafeteria, dorm)	11.3	13.7	14.7	10.7

[1] *Ibid.*, p. 73.

[2] *Ibid.*, p. 74.

Work off-campus in area related to course work	11.0	7.4	7.6	12.4
Work off-campus in area *not* related to course work	39.4	27.7	17.4	33.5

The effects of work on persistence is then examined from several different perspectives: type of work, number of hours, relevance of work to career, job satisfaction, marital status and financial aid.

In general, an on-campus job *held during the freshman year* has a strong impact on persistence. In particular, involvement of blacks in white colleges in on-campus jobs lowers their drop-out probabilities by 13 percent. There is, however, *no* significant association for blacks in black colleges. On the other hand, an on-campus job held *longest while in college*[1] has more pronounced effects than the job held in the freshman year. In the case of blacks in white colleges, the reduction in drop-out probabilities is 20 percent, while blacks in black colleges show a 15 percent reduction if the job held longest is academic and a 6 percent reduction if it is non-academic.

An off-campus job held longest[2] while in college has negative effects on all four samples of students. While there are a number of variations in the conditions with respect to the employment studied and several apparent inconsistencies in effects, in general, the negative effects of off-campus employment seem to be due to the marked increase in the number of hours of work involved in off-campus employment. Many students simply cannot cope with both employment which demands (or makes available) more than 15-20 hours of work and the requirements of their academic load.

On the other hand, having a part-time job usually increased the student's chances of completing college.

The positive effects of part-time employment are even more pronounced among blacks.[3]

Still another factor studied by Astin is the effects of the relevance of work performed to a student's intended career. The results show some interesting contrasts. About 21 percent of the students[4] (one in five) have off-campus jobs that are in areas unrelated to course work but that fit in either fairly well or very well with their long-range plans. This results in increased dropout probabilities. Results for men and women are significantly different and in some cases inconsistent.

The effects of employment among married students and the relationship to attrition is also treated. As might be expected, most married students who require employment seek off-campus jobs. For those who are married when they enter in the freshman year, holding an off-campus job is associated with large increases in dropout probabilities (23 percent for men and 16 percent for women)[1].

However, when students marry after entering college, the situation is reversed: working off-campus is then associated with reductions in dropout probabilities (9 percent for men and 5 percent for women). Although the number of married blacks in the sample in each case is too small to be reliable, the pronounced effects are worth further study and consideration.

As cited previously, the combination of employment with other means of financial support as a financial aid package has a number of significant and contrasting effects, depending upon the design of the package. These will not be repeated here.

Effects of Employment on Attrition: Implications for the Black Colleges

The Astin study presents a number of findings and conclusions with respect to the relationships between employment and persistence. Those cited herein are only highlights of some of those aspects considered to have major implications for the black colleges.

- First, it should be obvious that student employment counseling and placement services are highly important to persistence in college. The professional quality of service required has never been provided in most of the small liberal arts colleges and in only a very few of the black colleges. Such programs must be carefully designed and agressively pursued by student counseling and student employment officers as well as those concerned with placement of graduates. For at least the last 20-25 years, most placement offices in colleges and universities have ridden on good economic times and high employment opportunities.

  College officials have "accommodated" corporate recruiters looking for the new graduate. But generally, little has been done for the undergraduate student except to list jobs that have come to the attention of the placement office or registrar's office through informal channels. Little creative effort has been expended in setting up employment arrangements. Programs such as Cooperative Education have made efforts along these lines. Nevertheless, an examination of these programs will show all but a few to be only half-heartedly supported and poorly administered.

- There is a need for more on-campus jobs. The control of hours of work, with its beneficial effects on persistence

[1] *Ibid.*, p. 76.
[2] *Ibid.*, p. 76.
[3] *Ibid.*, p. 87.
[4] *Ibid.*, p. 81.

is one positive factor. The other, again, is that findings regarding on-campus work tend to support the involvement theory. Students with on-campus jobs spend more time on campus and have better opportunity to become involved with other students and faculty.

To call for more on-campus jobs may be easier to say than to do. Nevertheless, colleges can reappraise both their academic and non-academic job structures for students.

- The facts and figures on the material presented and to be gained from further studies may be arguments for expansion of federal and state funds for work-study as a form of financial aid that lends itself well to accountability.
- There are important implications related to cooperative work programs in career programs. Not only does careful attention have to be given to work arrangements; they need to be established with government, civil, and institutional employers, as well as with private employers. The ideal objective is to have every work experience be a part-time job, a career work experience as well as an acceptable learning experience. There is a real need to provide students planning skills and to help them obtain employment that is related to course work and that fits in with their long-range plans. There should be a strong tie-in with career planning and development efforts.
- There should be a concerted effort on the part of academic administrators and faculty to show relevancy of academic course work to students' current employment. This relevancy factor is a strong motivating factor in academic success and in persistence.
- Colleges must look at innovative, more varied and flexible scheduling in relation to employment opportunities. Such scheduling arrangements are likely to work hardships on a college. Generally, there are additional costs in providing varied schedules. There is the possibility of a necessity to lengthen the student's academic career. Faculty schedules may be affected in ways that work hardships on them or weaken offerings. Nevertheless, because of employment's financial importance to students and because of its other advantages, colleges will have to take an increasing interest in mechanisms that facilitate opportunities for student work.

Implications of Employment: Suggestions for Research

- There is need for further research on the specific factors dealing withthe relation of kinds of jobs and their effects on retention and attrition in the case of black men and women.
- Research is needed to determine the relevancy of academic course work to student jobs and the basic skills required by these jobs in relation to the skills being taught in identified and related academic course work.
- Analytical studies are needed of on-campus job-structures for accommodation of student workers.
- Information is needed, using a motivational research model, with respect to the relationship between on-campus vs. off-campus employment, course relevancy to jobs and to career choices, the effects of changes in scheduling and of field experience, unpaid as well as paid. Further included is research directed at the whole theory of involvement, embracing such aspects as the effects of employment on social contacts, extracurricular activity participation, inter-personal communication skills, and self-directed study over and above that required by the college and its faculty.

V. **Residence and Campus Environment**

One of the important factors in a student's college life is the form of residence taken up by the student. In the 1972 follow-up study, students were asked where they had lived each year since entering college in 1968.[1] The questionnaire presented six categories: with parents; college dormitory; fraternity or sorority house; private home (other than with parents); other student housing; and other. Because of the very small percentages in the last two categories, these were combined for purposes of analysis. Again, to avoid artifactual correlations between residence and attrition, the initial analysis of the impact of alternative experience considered only the student's freshman residence. As in the study of other factors, a methodology was used that compared actual dropout rates for students who lived in various residences with expected dropout rates computed from the students' entering freshman characteristics and from the three variables: financial aid, work situation, and type of college. The multiple correlations between these control variables and dropping out are .44 and .41 for white men and women, respectively, and .42 and .59 for blacks in black colleges and in white colleges respectively.

In all four samples (white males, white females, blacks in black colleges, and blacks in white colleges), living in a dormitory as a freshman is associated with reduced dropout probabilities.[2] It appears to decrease a student's dropout chances by approximately 10 percent. One of the very interesting findings is the effect of residency requirements. The researchers wondered if the facts were not influenced by certain types of students who chose to live in a dormitory in their freshman year. Making certain tests by sorting out colleges that required dormitory living in the freshman year, it was found tht the beneficial effects are *not* compromised by a residence requirement.[3]

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[1] *Ibid.*, p. 90
[2] *Ibid.*, p. 91.
[3] *Ibid.*, p. 93.

Living in a sorority or fraternity produces even more beneficial effects.[1] However, the numbers that would be used in this category were so small, they must be used with caution. It does, however, appear to support the involvement theory.

Living in a private room or apartment rather than at home with parents has contrasting effects. It appears to be beneficial to men but detrimental to women.[2]

Turning to the factor of campus environment, the study examines such factors as academic performance, ways of handling unsatisfactory performance, methods of awarding credits and participation in extra-curricular activities.

Academic performance is a major factor in all groups. High or fairly high performance decreases dropout probabilities significantly. Nevertheless, in the case of students with A and A+ averages,[3] nearly one in five drop out, showing that academic performance is not the only condition for staying in college. Grades in the B range (GPA between 2.75 and 3.04) appear to have the strongest positive effect on persistence, particularly among black students.

The use of academic probation (in the sense of giving a student an additional chance to meet course standards and requirements rather than pushing or causing the student to drop out) as a way of handling those with unsatisfactory academic performance is suggested, but it is pointed out that there is a difference in the effects of this on persistence between men and women. Women seem to respond to the challenge of it more readily than men.

Giving credit by examination as a factor in retention is studied with several favorable and opposing arguments presented. A comparison of expected and actual dropout rates indicates that receiving credit by examination is significantly associated with college persistence. The associated reduction in dropout probabilities for blacks is considerably higher than for whites: while it is 5 percent for both white males and white females, it is 12 percent for blacks attending black colleges and 11 percent for blacks attending white colleges. The association between persistence and giving credit for learning from work and other experience was not studied although such credentialing probably will become more common in the future, particularly if the current interest in competency-based education continues.

Opportunities for study abroad is another means of increasing student persistence but, to date, is extremely limited for blacks in black colleges. "Data on expected and actual dropout rates reveal a positive association between foreign study and student persistence. The associated reduction in dropout probabilities is 3 percent and 8 percent, respectively, for white men and women, and 11 percent for blacks attending white colleges. Again, one difficulty is the artifact: the longer a student remains in college, the greater the opportunity to study abroad. Thus, the findings on foreign study should be viewed with caution."[4]

Participation in extra curricular activities is closely related to staying in college, especially memberships in sororities and fraternities. The theory of involvement again is supported by the findings. However, measurement of participation in extra curricular activities was limited to only two forms: varsity sports and membership in social fraternities and sororities. In addition, only those students enrolled full-time during their first two undergraduate years were included. Participation, for example, in choir, glee club, band, drama society, college paper or literary magazines and honor societies were not included.

Residence and Campus Environment: Implications for the Black Colleges

- Those colleges that have had idle dormitory space or insufficient dormitory space need to reassess their thinking or residence facilities in terms of the effects on persistence. In terms of involvement and campus environment effects, there appears to be room for tremendous changes in residence facility plans and arrangements. These can help many students feel a more personal contact with college faculty and students—a complaint which several individual studies have shown students frequently voice.
- Many students of normal college age are still ill at ease socially and need guidance and help in relating to other students and faculty.
- Colleges must also give attention to the needs and problems of transfer students and those in continuing education, for these students may well increase in numbers and become more important to full enrollment.
- Wider use of academic probation (previously defined) as a means of encouraging slow students to persist may be worth consideration. In such cases, those placed on academic probation should be provided with analysis and diagnosis of the causes of their problems; to use academic probation merely as a threat of expulsion is likely to further discourage failing students.
- Use of credit by examination warrants greater use, particularly as the use of cooperative work programs, experimental learning and continuing education increases.
- In the case of study abroad for black students in black colleges, expansion of exchange programs with African

[1] *Ibid.*, p. 95.
[2] *Ibid.*, p. 93.
[3] *Ibid.*, p. 98.
[4] *Ibid.*, p. 105.

universities may be worth considerable effort although such exchange programs should not limit blacks to African universities or colleges.

Residence and Campus Environment: Suggestions for Research

- There is a need for further research on the relationship and effects of varied forms of college residence and retention.
- A continuing and persistent program area for research should focus on the theory of involvement in a college community and individual activities as related to motivation, persistence, academic performance, and interpersonal relations and communication skills, including the effects of faculty relationships and contact with students.
- As the use of Competency-based Education and the practice of giving academic credit for learning that takes place in the work and outside environment increases, credentialing studies conducted by colleges or appointed groups will be necessary.

VI. Characteristics of the College

America's nearly 3,000 institutions of higher education offer a tremendous diversity which is one of this country's educational strengths. Certainly, the historically black institutions are a part of this diversity. One aspect of these differences is in the rates of attrition themselves. The range of actual dropout rates among the 358 institutions in the study is tremendous. They vary from a low of 3% to a high of 81%.[1] There are logical reasons for both ends of the extremes. Much of the variation can be attributed to the characteristics of the students in the schools at both ends of the extremes at the time of their entrance into these colleges. Those dropout rates at the high end of the range are influenced by the two-year colleges which consistently show the highest dropout rates. The high dropout rates of the two-year colleges can be attributable partially to the relatively high dropout proneness of their entering students. The study presentation discusses the various factors which it has shown have significant effect on attrition, such as financial aid, residence facilities, etc. and relates these to public versus private colleges and two-year versus four-year institutions. The presence or absence of these resources are part of the characteristics of a college.

Religious affiliations (or the lack of them), coeducation, geographic region and transfer policies and attitudes, institutional selectivity, size and costs are all factors that make up the characteristics of a college. Do the characteristics of a college affect attrition rates? Obviously some characteristics do. Different types of institutions tend to attract different types of students with differences in dropout proneness. Some institutions have greater resources of the type that tend to reduce attrition, such as financial aid resources, residence halls, work-study opportunities, etc.

Characteristics of the College: Implications for the Black Colleges

From a realistic standpoint, not all of the characteristic factors of a college are controllable, at least in the short run. Furthermore, certain changes in characteristics which might be desirable from the standpoint of the effects on persistence may not be desirable from other standpoints.

Each one becomes a policy question that has its pros and cons. First, one might take the matter of residence facilities.

- As has already been shown, dormitory facilities are a decided advantage to a college and its students, at least from the standpoint of persistence. They also appear to have a beneficial effect as far as student involvement is concerned.
- Selectivity is a factor over which the college has quite a bit of control. As previously shown, when two-year colleges are dropped out, the correlation between selectivity and persistence largely disappears.[2] Among the four-year colleges and universities, selectivity has no systematic relationship to persistence, after controlling for the dropout proneness of entering freshmen, their financial aid, work status and residence. Any attempt to cover, measure, and admit students on the basis of dropout probabilities becomes, in itself, a matter of selectivity.
- Size of institutions was shown to have little effect on persistence except for schools below 500 enrollment. Among institutions of relatively small size (1,001–2,500), the relationship of selectivity to attrition is completely curvilinear; that is, institutions of moderate selectivity seem to facilitate persistence, whereas institutions of either high or low selectivity seem to have a negative effect.

  Since many historically black institutions are relatively small, institutional goals of size can have a very great impact on survival and success and should be set with a great deal of deliberation. Those that are too small must endeavor to an "economic size." On the other hand, relative smallness of size may offer the very advantages that will allow many colleges to offer that diversity that permits them to compete.
- Religious affiliations may have a positive effect which has been lost sight of in recent years. The study demonstrated that attending institutions with either Roman Catholic or Protestant affiliations appears to increase the students' chance of completing college. Many of the black institutions have had such church affiliations. Moreover, certain churches, affected by shrinking budgets and rising costs like other institutions, are at least questioning the advisability of continuing to affiliate with and give any financial support to colleges. Even though the influence of such church affiliations on religious beliefs and morals has

[1] *Ibid.*, p. 110.
[2] *Ibid.*, p. 122.

been dwindling over the past 20 years or so, the loss of such affiliation may have one or more adverse effects on persistence among students in these colleges.

- The black institutions are under pressure to raise student tuition and other costs, as are other institutions. However, high tuition in the case of both samples of blacks, had a significant *negative* effect on persistence, particularly among blacks attending black colleges. The negative outcome among blacks attending white colleges was borderline. This is a proof of what has been agreed-upon for a long time—that black students need greater financial aid if they are to be able to take advantage of college opportunities. This same relationship between tuition costs and persistence in white colleges, according to the Astin study, does not appear to hold. Black colleges must redouble their efforts to hold tuition costs down by seeking more student financial aid from both government and private sources. Increases in tuition will automatically make these black colleges more selective, if not less able to survive and compete.
- The study of the effect of transfers on attrition shows marked differences by region with the lowest effect being in the South. In fact, transferring from public institutions in the South was associated with a decrease of about two percent in dropout chances. The implication appears to be the attitude of various types of schools toward transfer students. This is an age of great mobility with respect to the feeling of freedom of students to move around the country. Yet, few institutions seem to welcome transfer students. Transfer students, like the "new kid in the neighborhood," have many adjustments to make as they enter a more or less established in-group when they transfer. Few schools seem to make any special effort to help these students overcome the social and academic barriers that exist. In order to make up for the attrition that is experienced, the black colleges might well make special efforts to attract: (1) students graduating or leaving the two-year community and junior colleges, and (2) students from other four-year colleges that wish to transfer for a variety of reasons.

Characteristics of the College: Suggestions for Research

- What is the ideal size or size range for the historically black college? Determination must consider a balance of factors that includes cost economics and availability of resources as well as effects on attrition. Certain cooperative arrangements between schools may well prove advantageous in balancing these factors. A number of innovative arrangements are being explored but these explorations need to be pushed further.
- What should be the role of affiliated religious institutions in the colleges with which they are affiliated? Should new and innovative forms of religious affiliation and influence be attempted? To what extent can voluntary, student-led religious efforts help an institution and its student-efforts by such organizations as campus crusade? Should religious affiliates make any attempts to raise moral and ethical standards among students, without regard to individual religious doctrinal beliefs?
- What are the marginal differences in increases in tuition and fees with respect to increased income versus impact on enrollment and selectivity?
- What are some of the effects on behavioral aspects of transfer students under different arrangements of acceptance, introduction into existing student groups, different faculty and administration attitudes, etc.?

  What, if any are the effects of change in behavior on the part of transfer students on their persistence? This may be particularly important as colleges look to community colleges and continuing education for future enrollments.
- One variable that the Astin study did not treat with respect to persistence is that of changes in curriculum. Many changes in curriculum are being made and are being experimented with. In the opinion of the writer of this paper, this is one of the most important areas of research to be undertaken by the historically black colleges. The introduction of black studies, the trend to more career programs, the introduction of interdisciplinary and multicultural studies, the use of core curricula over each, have significant and varying effects on persistence. Although there are a great deal of subjective ideas and speculation in this area, little is known factually.

This publication is a product of the Moton Consortium on Admissions and Financial Aid, a component of TACTICS*. The Robert R. Moton Memorial Institute is the Assisting Agency.

Funds for this publication were made available under the Title III Developing Institutions Program.

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